

## **REMARKS**

Claims 1-20 are pending in the present application. Reconsideration of the claims is respectfully requested.

### **I. Objections to Specification**

The Examiner's objections to the specification are noted and appropriate correction has been made. Applicants note, however, that the typographical errors in the affected paragraphs appear to have been the result of a discrepancy in the rendering of Applicants' pre-EFS-Web electronically-filed application at the USPTO, since Applicants' original XML copy of the application renders properly (*i.e.*, without the typographic errors) on Applicants' Representative's computer system using the USPTO's ePAVE software. Applicants respectfully request the cooperation of the Office in identifying and calling to Applicants' attention any other rendering anomalies of this sort.

### **II. 35 U.S.C. § 103, Obviousness, Claims 1-17 and 19-20**

The Examiner has rejected claims 1-17 and 19-20 under 35 U.S.C. § 103 as being obvious in view of *Nakayama et al.* (U.S. Patent No. 6,907,001) and *Erimli et al.* (U.S. Patent 6,842,423). This rejection is respectfully traversed.

#### *A. Burden*

The Office bears the burden of establishing a *prima facie* case of obviousness based on the prior art when rejecting claims under 35 U.S.C. § 103. *In re Fritch*, 972 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). The Examiner has failed to meet that burden for the following reasons.

#### *B. References must teach or suggest all elements of the rejected claims*

For an invention to be *prima facie* obvious, the prior art must teach or suggest all claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

With regard to independent claims 1, 7, and 12, the references fail to teach or suggest all elements of these claims. Specifically, independent claims 1, 7, and 12 recite a feature of “in response to a determination that the particular one of the plurality of output queues contains a number of queue items that meets or exceeds the pre-determined amount, **preventing any queue items** that have a same corresponding output port as the particular one of the plurality of output queues and **that have a queue item priority greater than or equal to the queue priority of the particular one of the plurality of output queues from exiting the input queue**” (emphasis added), which is neither taught nor suggested by the cited references.

The Examiner argues that this feature is taught by *Nakayama*. A closer examination of *Nakayama*, however, reveals that *Nakayama* actually teaches away from the present invention by teaching what might be characterized as the *opposite* of what is recited in independent claims 1, 7, and 12. The cited portion of *Nakayama* relied upon by the Examiner teaches a process in which packet congestion is addressed by first blocking *low priority* packets, then, if the congestion becomes worse, eventually blocking *all* packets until the congestion clears:

In the congestion control process, a plurality of threshold values may for instance be assigned to the cell queues formed for each output port in the switching unit **3**, and at the point where the quantity of the stored cells for a specified output port reaches a first threshold value Th1, the low priority cells destined for the specified output port is prohibited from flowing into the switching unit **3** and upon reaching a second threshold value Th2, the high priority cells destined for the specified output port is also prohibited from flowing into the switching unit **3** and once the number of cells stored for the specified output port has sufficiently decreased due to prohibiting the supply of cells to the switching unit, the suppression of the input of cells to the switch unit may be canceled to once again allow the cells to flow into the switching unit **3** in the order of high priority cells first. [*Nakayama*, col. 4, line 63 – col. 5, line 11].

Independent claims 1, 7, and 12, on the other hand, recite a feature of preventing any queue items that have a queue item priority ***greater than or equal to the queue priority of the particular one of the plurality of output queues*** from exiting the input queue. Thus, while *Nakayama* teaches blocking *low priority* packets to allow higher

priority packets to pass, independent claims 1, 7, and 12 recite the opposite—namely, preventing only the *higher priority* queue items (specifically, those having a priority *greater than or equal to* that of the congested queue) from exiting the input queue, thus allowing lower priority queue items to exit the input queue while blocking higher priority queue items from exiting.

This feature of preventing higher priority queue items from exiting the input queue while still allowing lower priority queue items to exit the queue seems counterintuitive, particularly from the perspective of the *Nakayama* reference, which teaches the opposite. Indeed, modifying the *Nakayama* reference to favor passing low priority packets over high priority packets would not make sense at all. However, there is a key difference between the *Nakayama* reference and Applicants' claimed invention that makes this counterintuitive feature work beneficially.

As the Examiner has noted, the *Nakayama* reference does not teach or suggest a plurality of output queues fed by the input queue, where each output queue has a corresponding queue priority, as recited in independent claims 1, 7, and 12. Where there are multiple output queues, each having a different priority, and a higher-priority queue becomes full, Applicants' invention recognizes that there is no harm in passing lower-priority items to the lower-priority output queues from the input queue, since those lower-priority items will still have to wait for the higher-priority items in the higher-priority queues before being output on the output port. The present invention also recognizes, however, that allowing higher-priority items to pass from the input queue to higher-priority output queues prevents the congestion from clearing. For example, if the priority 2 output queue is congested, the congestion in the priority 2 queue cannot clear as long as priority 3 and higher items are being passed to the priority 3 and higher output queues, where they will take precedence over the items waiting in the priority 2 output queue.

The Examiner relies upon *Erimli* as teaching multiple prioritized output queues. However, *Erimli* still does not teach or suggest the feature of preventing any queue items that have a queue item priority *greater than or equal to the queue priority of the particular one of the plurality of output queues* from exiting the input queue. Rather, *Erimli* teaches the use of a mask register to determine which output queues will affect the

use of flow control at the output port. In short, *Erimli* neither teaches nor suggests selectively preventing higher-priority queue items from exiting an input queue.

Thus, independent claims 1, 7, and 12 are not obvious in view of the cited references, which, in fact, teach away from the present invention as recited in those claims. Similarly, dependent claims 2-6, 8-11, 13-17, and 19-20 are also non-obvious in view of the cited references, at least by virtue of their dependency on independent claims 1, 7, and 12. For these reasons, Applicants' respectfully request that the rejection of claims 1-17 and 19-20 under 35 U.S.C. § 103 be withdrawn.

### **III. 35 U.S.C. § 103, Obviousness, Claim 18**

The Examiner has rejected claim 18 under 35 U.S.C. § 103 as being obvious in view of *Nakayama et al.* (U.S. Patent No. 6,907,001), *Erimli et al.* (U.S. Patent 6,842,423), and *Wynne et al.* (U.S. Patent 6,959,002). This rejection is respectfully traversed.

Claim 18 is a dependent claim that depends from independent claim 12. *Wynne* fails to cure the deficiencies of *Nakayama* with respect to the features of claim 12 that are contained in claim 18 by dependency. Specifically, *Nakayama* fails to teach or suggest the claimed feature of “in response to a determination that the particular one of the plurality of output queues contains a number of queue items that meets or exceeds the pre-determined amount, preventing any queue items that have a same corresponding output port as the particular one of the plurality of output queues **and that have a queue item priority greater than or equal to the queue priority of the particular one of the plurality of output queues from exiting the input queue**” (emphasis added). Thus claim 18 is patentable over the cited references for at least the reasons set forth with respect to independent claim 12.

### **IV. Conclusion**

It is respectfully urged that the subject application is patentable over the prior art of record and is now in condition for allowance.

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,

/Michael R. Nichols/

Michael R. Nichols  
Reg. No. 46,959  
3001 S. Hardin Blvd., Ste. 110  
PMB 155  
McKinney, TX 75070  
Ph: (972) 369-1300  
Fax: (469) 519-0144  
ATTORNEY FOR APPLICANTS